Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Results: Expert feedback was incorporated into the tool, with consensus achieved after four survey rounds. Three categories of HA-SAB, with tailored organisational responses for each classification, were established in the tool. 'Highly preventable' infections involved a clear breach in IP practices, and 'possibly preventable' infections were associated with healthcare interventions where a specific IP breach was not evident. 'Not actionable' events were those where the source of infection does not appear amenable to local change. Pilot application of the completed tool found that 56% of HA-SAB events were highly or possibly preventable, with modifiable factors not identified in the remainder of reviewed cases.
Conclusion: A Prevention Assessment and Response Tool was successfully developed using a Delphi Technique to assist organisations with investigating and responding to HA-SAB events, and to identify future priority areas for HA-SAB reductions. Wider use of the tool is required to evaluate utility and impact on patient outcomes.

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STRENGTHENING BIO-PREPAREDNESS FOR MANAGING PATIENTS WITH SUSPECTED HIGH CONSEQUENCE INFECTIOUS DISEASE (HCID) USING SIMULATION AND VIDEO-REFLEXIVE METHODS

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Introduction: The NSW Biocontainment Centre (NBC) at Westmead will soon become the state-wide facility for the care of patients with high consequence infectious diseases (HCID). Researchers have collaborated with NBC staff and other stakeholders to adapt current local health district HCID procedures, for the care of patients with viral haemorrhagic disease, for the new NBC.
Methods: Several HCID exercises were designed on paper, by NBC clinicians, drawing on local policy as well as international biocontainment centre procedures. Exercises focused on procedures within quarantine rooms including: mobile x-rays; preparation of blood samples for transfer to a PC4 laboratory; removal of a deceased person; and healthcare worker collapse. Simulations of these exercises were video-recorded between February and June 2021. After each exercise, the clinicians involved, and colleagues, collaboratively reviewed and analysed the recordings, in researcher-facilitated reflexive discussions. The aim was to identify how optimal infection prevention and biocontainment could be maintained while performing complex procedures. Suggestions for practice optimisation were then tested in subsequent video-recorded simulations and repeated until consensus on optimal practice was achieved.
Results: Preliminary analysis of reflexive discussions shows that the combination of simulation and video-reflexivity enabled participants to identify infection and occupational risks through collaborative analysis of exercise footage. Video-reflexive methods also enabled participants to recognise, discuss and test alternative viewpoints on what constitutes safe and effective practices, leading to adjustments where appropriate, and consensus on adapted guidelines.
Conclusion: Video-reflexivity enables context-sensitive and consensus-building co-design of policies and procedures, critical to the preparation for a new biocontainment unit.

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USE OF PORTABLE AIR CLEANERS TO REDUCE AEROSOL TRANSMISSION ON A HOSPITAL COVID-19 WARD

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Introduction: It is now accepted that COVID-19 can be spread via the airborne route. Hospital ventilation systems are largely designed for comfort and many areas may not be suitable for managing patients with airborne infections. We traced airflow in a COVID-19 ward and tested the effectiveness of commercially available air cleaners in reducing airborne particle concentrations.
Methods: Testing was performed in a ward which had previously housed COVID-19 patients. The return air vent for the whole ward is just inside the single entrance and exit point. Glycerine-based aerosol was used as a surrogate for respiratory aerosols. The transmission of aerosols from a single patient room into corridors and a nurses' station in the ward was measured. The rate of clearance of aerosols was measured over time from the patient room, nurses' station and ward corridors with and without air cleaners (also called portable HEPA filters).
Results: Aerosols rapidly travelled from the patient room into other parts of the ward. Air cleaners were effective in increasing the clearance of aerosols from the air in clinical spaces and reducing their spread to other areas. With two small domestic air cleaners in a single patient room of a hospital ward, 99% of aerosols could be cleared within 5.5 minutes.
Conclusion: Air cleaners may be useful in clinical spaces to help reduce the risk of healthcare acquired acquisition of respiratory viruses that are transmitted via aerosols. They are easy to deploy and are likely to be cost effective in a variety of healthcare settings.

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A HOSPITAL-WIDE RESPONSE TO MULTIPLE OUTBREAKS OF COVID-19 IN HEALTH CARE WORKERS: LESSONS LEARNED FROM THE FIELD

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Introduction: The Royal Melbourne Hospital (RMH) experienced a significant number of staff COVID-19 infections during July and August 2020 concurrent with a state-wide surge in cases. We describe the epidemiology of the infections and the interventions associated with outbreak control.
Methods: The RMH is a large tertiary hospital on multiple sites including geriatric and rehabilitation beds at the Royal Park Campus (RPC). The Infection Prevention service managed the outbreaks and exposures, including staff and patient contact tracing, in conjunction with the Victorian Department of Health and Human Services using their COVID-19 guidelines and definitions. A staff well-being service was set up to manage infected and furloughed staff. Data were entered into a REDCap database and analysed using Stata 16.
Results: Between 1 July and 31 August 2020, 262 COVID-19 cases occurred in RMH staff including 179 (68.3%) nurses and 38 (14.5%) support staff. 107 (40.8%) were at RPC and coincided with a large number of patient infections (peak of 60). 57 (21.8%) infections occurred on COVID-19 wards, the emergency department and intensive care unit. Twenty (7.6%) occurred on "cold" wards which experienced unexpected outbreaks. Mitigation strategies according to a hierarchy of controls were introduced. These included elimination, engineering and administrative controls and personal protective equipment as well as frequent testing of staff and patients with rapid access to results under a previously established governance structure.

Discussion: A large institutional outbreak of COVID-19 was controlled using a pragmatic and iterative suite of interventions.

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HAND HYGIENE IN SMALL ANIMAL VETERINARY PRACTICES — MORE THAN A LICK AND A PROMISE

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Introduction: Hand hygiene (HH) is recognised as an important infection prevention and control practice to reduce the risk of pathogen transfer. Australian human health care facilities have allocated considerable resources and training to improve HH compliance. Small animal veterinary practices also have a need to demonstrate good HH. Formal HH training and auditing does not occur in veterinary practice.
Methods: A pragmatic pilot trial of educational interventions was conducted in six heterogeneous small animal veterinary practices. Hand hygiene compliance was evaluated using the World Health Organisation 5 Moments for HH.
Results: Hand hygiene compliance was low (14%) pre-intervention and improved to 46% after a six-week intervention. Compliance dropped to 35% six-months post intervention. All five moments improved immediately post intervention. There was a significant difference between pre and immediately post-intervention with HH compliance for Moment 5 — after touching a patient's surroundings, at the 95% level of confidence. There were no significant differences between the other moments. Moment 3 — After a procedure and body fluid risk and Moment 4 — After touching a patient, were consistently higher than other moments in all audit periods.
Conclusion: Trial results suggest that a human based HH intervention program may be suitable in veterinary settings. A dedicated staff member to promote HH training and support staff is necessary to maximise awareness and improve practices. Management support and dedicated time for staff to attend training can help with HH uptake. The improvements in HH compliance are encouraging and illustrate improvement can occur with education.

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PUBLIC'S USE OF PPE AND STRATEGIES TO AVOID CONTAGION DURING COVID-19 PANDEMIC IN AUSTRALIA AND GERMANY

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Introduction: The significant media coverage of the prevalence and morbidity rates of SARS-CoV-2 has raised public awareness of Infection Prevention and Control strategies related to communicable diseases. The aims in this study were to investigate the strategies people in Australian and Germany use, and situations they avoid, to protect themselves from contracting COVID-19.
Methods: A cross-sectional survey of 213 Australian and 424 German participants completed items designed for this study.
Results: Principal Components Analyses using the Australian data revealed two independent and reliable Protection from Infection factors: Self-Care and Protective Behaviours, and one Infection Avoidance factor. The construct validity of the scales was supported by confirmatory factor analysis using the German data. A comparison of the two samples revealed that Australian participants scored higher overall on protection and avoidance strategies but at the item level there were several commonalities.
Conclusions: Commonalities at the micro level included self-care behaviours people adopted to avoid contracting COVID-19. On the Infection Avoidance Scale, both samples avoided public transport, restaurants and cafés, and large groups, typical areas of possible contagion. The German sample reported higher scores on avoiding shaking hands, hugging, and touching their face while the Australian sample scored higher on avoiding travel, avoiding leaving the house either generally or unless for work or school, as well as avoiding people who sneeze or cough. With no foreseeable end to this pandemic, it is important follow-up studies ascertain whether people continue to adopt PPE and follow government advice or if fatigue sets in.

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TRAINING OF HEALTHCARE WORKERS TO PROTECT FROM INFECTIOUS DISEASES

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Introduction: Numerous studies have been done within countries to look at the availability and delivery of occupational health and safety (OHS) training for healthcare workers (HCWs). However, there has been a failure to date to compare countries to explore the level of variation in guidelines and recommendations regarding the development and implementation of OHS training, focused particularly on staff health. Our study compared the infection prevention and control (IPC) guidelines from multinational and individual countries to explore the recommendations.
Methods: This program of work reviewed IPC guidelines from the WHO, the US CDC, and eight selected countries, as well as the pandemic guidelines from 23 countries. Twenty-one key-stakeholders from six selected high, low- and middle-income countries were interviewed to further understand the landscape. Lastly, a two-round modified-Delphi approach was used to develop recommendations on the elements required to ensure best practice around training.
Results: Our study identified mode/timing of delivery and curriculum differed across all IPC guidelines. Few acknowledged the need to incorporate adult learning principles. Four pandemic guidelines discussed training HCWs on correct personal protective equipment (PPE) use. None of the COVID-19 guidelines recommended training HCWs for PPE reuse or extended use. Inadequate training, poor resource allocation, lack of leadership support, was some factors identified through interviews.
Conclusion: While it is critical that training materials and approaches are tailored for localised settings, it is also important that countries ensure that best practice principles are captured within guidelines to set a standard for health department and individual organisations to follow.

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VIRUS AEROSOL PROPAGATION BY CONTINUOUS POSITIVE AIRWAYS PRESSURE (CPAP) IS PROPORTIONAL TO MASK LEAK

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Introduction: Nosocomial transmission of SARS-CoV-2 has caused significant morbidity/mortality in the COVID-19 pandemic. Because patients auto-emit aerosols containing viable virus, these aerosols can be further propagated when patients undergo certain treatments including continuous positive airway pressure (PAP) therapy. This study aimed to assess the degree of viable virus propagated from mask leak in a PAP circuit.
Methods: Bacteriophage PhiX174 (108copies/mL) was nebulised into a custom PAP circuit. Mask leak was systematically varied to 0, 7, 21, 28 and 42 L/min at the mask interface. Plates containing Escherichia coli assessed the degree of viable virus settling on surfaces around the room. In order to contain virus spread a ventilated headboard and high efficiency particulate air (HEPA) filter was tested.
Results: Increasing mask leak was associated with virus contamination in a dose response manner ($\chi 2 = 58.24$, $df = 4$, $p < 0.001$). Clinically relevant levels of leak ($\geq$21 L/min) were associated with virus counts equivalent to using PAP with a standard vented mask. Viable viruses were recorded on all